

ENTERED

June 19, 2018

David J. Bradley, Clerk

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

TRANSOCEAN OFFSHORE
DEEPWATER DRILLING INC.,
Plaintiff,

v.

NOBLE CORPORATION PLC, *et al.*,
Defendants.

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CIVIL ACTION NO. 4-17-0123

MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION

This patent case is before the Court for construction of the disputed claim terms in United States Patents No. 6,047,781 (“the ’781 Patent”), No. 6,056,071 (“the ’071 Patent”), No. 6,068,069 (“the ’069 Patent”), and No. 6,058,851 (“the ’851 Patent”) (collectively, the “Patents-in-Suit”). Plaintiff Transocean Offshore Deepwater Drilling Inc. (“Transocean”) owns the Patents-in-Suit. Transocean alleges that Defendant Noble Corporation and related corporate Defendants¹ (“Noble”) are infringing the Patents-in-Suit.

The Court conducted a hearing pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) (“*Markman* hearing”), on May 22, 2018. Based on the evidence before the Court, the arguments presented by counsel, and the governing

¹Noble Corporation, Noble Drilling Americas LLC, Noble Drilling Exploration Company, Noble Drilling Holding LLC, Noble Drilling Services Inc., Noble Drilling (U.S.) LLC, and Noble Drilling (U.S.) Inc.

legal authorities, the Court issues this Memorandum and Order construing those disputed claim terms that require construction.

I. BACKGROUND²

The '781 Patent was issued in April 2000 for an invention entitled Multi-Activity Offshore Exploration and/or Development Drilling Method and Apparatus. Claims 1-14, 25-28, and 30 of the '781 Patent are apparatus claims, and Claims 15-24 and 29 are method claims. The related patents, the '071 Patent and the '069 Patent, were issued in May 2000. Claims 1-22, 27-36, and 38-42 of the '071 Patent are apparatus claims, and Claims 23-26 and 37 are method claims. Claims 1-8 and 17-21 of the '069 Patent are apparatus claims, and Claims 9-16 and 22-26 are method claims. The '851 Patent was issued in July 2000. All thirteen claims of the '851 Patent are apparatus claims. Transocean is the owner by assignment of the Patents-in-Suit, which relate to dual-activity drilling rigs or “drillships.”

Drilling an offshore well requires constructing a hole, or “wellbore,” in the seabed. To construct the wellbore, the driller on the drilling rig alternates between drilling the actual hole in the seabed, and lining that hole with pipe. The drill bit used to drill the hole is suspended on a “drill string,” which is comprised of sections of drill

²In addition to the Patents-in-Suit and the parties' claim construction briefing, the Court bases the “Background” section on its review of the Complaint [Doc. # 1], Transocean's Tutorial [Doc. # 45], Noble's Tutorial [Doc. # 46], and prior claim construction opinions involving the Patents-in-Suit.

pipe called “tubular members,” “tubular assemblies,” “tubular strings,” or “tubular stands.” The tubular members are connected to each other on the drilling rig and then lowered, or “advanced,” into the sea. Hoisting equipment is used to lower and raise the tubular members. Specialized hoists are used on free-floating drilling structures to prevent damage to the drill strings or to the drillship.

Multiple (generally three) tubular members can be connected and made into “stands” which are added to the drill string as a unit. The stands are preassembled and stored in areas referred to as “setback envelopes.”³ The stands are retrieved by pipe handlers that travel on tracks to and from the setback envelopes. The pipe handlers are the equipment that move tubular members between tubular advancing stations and setback envelopes.

After the initial wellbore is drilled, the drill string is raised back to the surface. “Casing pipe” then is lowered on the drill string to the seabed to line the wellbore and provide structural stability. On conventional drillships, the lowering of tubular members and casing pipe to the seabed must be interrupted frequently as additional tubular members or joints of casing are added to the drill string.

³Setback envelopes are areas on or near the drill floor where tubular stands may be positioned until they are needed. *See* Transocean’s Tutorial, p. 15 n. 12.

After the casing is in place, the “blow-out preventer” (“BOP”) is lowered onto the top of the wellbore generally by the same process used to lower a string of tubular members. The BOP is comprised of one or more valves installed at the well-head to prevent pressure, or oil and gas, from escaping from the well. For the BOP, the tubular members have a large diameter and are very heavy. As a result, lowering the BOP is more time-consuming than lowering the drill bit or the casing. Indeed, lowering the BOP may take three days or more.

The term “critical path” in this case refers to the specific sequence of tasks that must be performed to construct the well, and it is used to calculate the length of time well construction is expected to take. Any operation required to construct the well will be included in the “critical path.” To calculate the expected time for well construction, the times anticipated for each step in the critical path are added together. The Patents-in-Suit describe several different operations that are required to construct the well, including making up and breaking down tubular strings (“handling”), transferring those tubular strings or stands, and advancing the tubular members to (and sometimes into) the seabed.

The Patents-in-Suit describe an improved method and apparatus that reduces the amount of time required to construct the well. The addition of a second tubular station on the drill floor allows certain activities to be removed from the critical path,

thereby shortening well construction time. Unlike prior dual-activity vessels in which there was a drilling station and a separate station for other tasks such as offline stand building, the Patents-in-Suit describe a dual-activity vessel with two tubular stations, each capable of performing drilling activity. *See, e.g.*, Claim 32 of the '071 Patent.

Transocean alleges that Noble constructed various dual-activity drillships for offshore oil drilling operations that infringe the Patents-in-Suit. Transocean filed its Opening Claim Construction Brief [Doc. # 50], Noble filed its Claim Construction Brief [Doc. # 53], and Transocean filed its Reply Brief [Doc. # 54].⁴ The following terms or groups of terms are in dispute and require construction by the Court: (1) derrick, and related terms, (2) “means for advancing” terms, (3) tubular advancing station, and related terms, (4) to the seabed, (5) drilling operations, drilling activity, and related terms, (6) “or” in the wherein clauses, (7) “means for handling” and related terms, and (8) Method Claim 37.⁵

⁴Following the *Markman* hearing, the parties filed their exhibits electronically. *See* Noble’s Exhibits and Combined Evidentiary Appendix [Docs. # 56 and # 57]; Transocean’s Exhibits [Doc. # 59]. Additionally, Noble filed a Post-Hearing Submission of Citation to Referenced Transocean Acknowledgment [Doc. # 58], Transocean filed a Post Hearing Submission and Reply to Noble’s New Claim Construction Position [Doc. # 62], Noble filed a Response to Transocean’s Post-Hearing Submission [Doc. # 63], and Transocean filed a Reply to Noble’s Response [Doc. # 64].

⁵The parties identified additional terms as disputed, but those terms were not fully addressed in the parties’ briefing or during the *Markman* hearing and, as a result, are not construed at this time. These terms include: “means for transferring,” “assembly operable to transfer,” “means for hoisting,” “first tubular member,” and “second tubular member.” If the
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The Court conducted a *Markman* hearing at which the parties presented evidence and argument regarding the proper construction of these terms. The Court found the parties' oral argument to be extremely helpful. Based on the parties' briefing, the full factual record, and the parties' presentations and argument at the *Markman* hearing, the Court construes the disputed claim terms.

II. GENERAL LEGAL STANDARDS FOR CLAIM CONSTRUCTION

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Aventis Pharm., Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*)). The patent claims in issue must be construed as a matter of law to determine their scope and meaning. *See, e.g., Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff'd*, 52 F.3d 967, 976 (Fed. Cir.) (*en banc*); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007).

"There is a heavy presumption that claim terms are to be given their ordinary and customary meaning." *Aventis*, 715 F.3d at 1373 (citing *Phillips*, 415 F.3d at 1312-13; *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

⁵(...continued)
parties need a construction of any of these terms, they may request by **July 10, 2018**, another *Markman* hearing and submit additional briefing on a schedule to be determined at that time.

Therefore, Courts must “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted); *see also Summit 6, LLC v. Samsung Elec. Co., Ltd.*, 802 F.3d 1283, 1290 (Fed. Cir. 2015). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313; *see also ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1374 (Fed. Cir. 2009). This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313; *ICU*, 558 F.3d at 1374.

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. For other claim terms, however, the meaning of the claim language may be less apparent. To construe those terms, the Court considers “those

sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.*

The claims “provide substantial guidance as to the meaning of particular claim terms.” *Id.* The Court may consider the context in which the terms are used and the differences among the claims. *See id.* “Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.” *Id.* Because the claims “are part of a fully integrated written instrument,” the Court may also consider the specification and the patent’s prosecution history. *Id.* at 1315, 1317. When the claims use separate terms, “each term is presumed to have a distinct meaning.” *Primos, Inc. v. Hunter’s Specialties, Inc.*, 451 F.3d 841, 847 (Fed. Cir. 2006).

The parties agree that certain disputed terms are means-plus-function limitations under 35 U.S.C. § 112(f).⁶ “In enacting this provision, Congress struck a balance in

⁶ Title 35, United States Code, § 112(f) provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to

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allowing patentees to express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function, while placing specific constraints on how such a limitation is to be construed, namely, by restricting the scope of coverage to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347-48 (Fed. Cir. 2015) (citing *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1350 (Fed. Cir. 2003)).

Construing means-plus-function claim terms follows a two-step process. First, the Court must identify the claimed function. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1351 (Fed. Cir. 2015). Second, the Court must identify the corresponding structure in the patent specification that performs the function. *See id.*; *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012); *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1330 (Fed. Cir. 2003). The corresponding structure must be “capable of performing the claimed function.” *Univ. of Pittsburgh of Commonwealth Sys. of Higher Educ. v. Varian Med. Sys., Inc.*, 561 F. App’x 934, 951 (Fed. Cir. 2014) (citing *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005); *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1379

⁶(...continued)

cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

(Fed. Cir. 2001)). The court must not, however, import “structural limitations from the written description that are unnecessary to perform the claimed function” or that do not actually perform the recited function. *See Welker Bering Co. v. PHD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008) (quoting *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001)); *Asyst Techs., Inc. v. Empak, Inc.*, 268 F.3d 1364, 1370 (Fed. Cir. 2001).

III. CONSTRUCTION OF DISPUTED CLAIM TERMS

A. Derrick and Related Terms

The parties dispute the proper construction of the terms “derrick” and “within the derrick” as used in Claim 1 of the ’851 Patent, the ’781 Patent, and the ’069 Patent. Additionally, the parties dispute whether the term “derrick” has the same meaning as the terms “drilling superstructure” and “interconnected superstructure” as used in Claims 10 and 32 of the ’851 Patent, Claim 30 of the ’781 Patent, Claim 17 of the ’069 Patent, and Claim 32 of the ’071 Patent.

1. Derrick, Drilling Superstructure, and Interconnected Superstructure

Transocean proposes that the terms “derrick,” “interconnected superstructure,” and “drilling superstructure” be given the same construction, specifically, “a single structure that supports the loads of drilling operations.” Noble disputes that the three

terms have the same meaning. Noble argues that a “derrick” is a “framework that supports the loads of drilling operations.”⁷ Although Noble appears to agree that a derrick is a drilling superstructure, Noble argues that “interconnected superstructure” should be construed to require two separate structures that are connected to each other.

The specification of the ’851 Patent provides that the preferred embodiment has a traditional four-sided derrick. The specification further provides that the invention includes other structures such as “tripod assemblies or even two adjacent upright but interconnected frames.” The example of a “derrick” comprised of two adjacent but interconnected frames demonstrates that the “derrick” is a single unit, even when the frames are separate but interconnected. Consequently, the terms “derrick,” “drilling superstructure,” and “interconnected superstructure” each identify a single unit.⁸

In addition to the preferred embodiment, each illustrated embodiment and each of the examples identified in the specifications of the ’851 Patent, includes a framework. Transocean’s argument that the derrick does not require a framework, including its reliance on the invention described in U.S. Patent No. 2,503,516 (“the

⁷Dictionaries define a “framework” as “a structure that forms a support or frame for something,” *see* www.collinsdictionary.com, and as “an essential supporting structure of a building, vehicle, or object,” *see* www.oxforddictionaries.com. It is unclear from the parties’ briefing and argument what they perceive as the distinction between a “framework” and a “structure,” and whether that distinction is material.

⁸In its Reply Brief, Transocean, while maintaining that an “interconnected superstructure” is a single structure, agrees that it is made up of a plurality of connected elements. *See* Reply Brief, p. 6.

Shrewsbury Patent”), is unpersuasive.⁹ The “shell” in the *Shrewsbury* Patent, which Transocean argues is a “derrick,” had an identifiable structure, *i.e.*, a framework.¹⁰ Indeed, it had a wall that was firm and thick enough to make the shell water-tight. *See Shrewsbury* Patent, Exh. 13, Col. 3, lines 20-22.

Based on the foregoing, the Court construes the terms “derrick,” “drilling superstructure,” and “interconnected superstructure” to mean “a single framework that supports the load of drilling operations.”

2. Within the Derrick

Claim 1 in the ’851 Patent, the ’781 Patent, and the ’069 Patent includes the limitation that something be “within the derrick.”¹¹ For example, Claim 1 of the ’851 Patent requires that the means for transferring tubular assemblies be positioned “within the derrick.” Transocean originally argued that “within the derrick” should be construed to mean “a location within the operational area supported by the

⁹In an Office Action dated May 8, 1997, the Patent and Trademark Office stated that *Shrewsbury* discloses an underwater drilling method that includes “a shell or derrick.” *See* Office Action, Exh. 6 to Transocean’s Opening Claim Construction Brief, ¶ 4.

¹⁰The Oxford Dictionary identifies “structure” and “shell” as synonyms of “framework.” *See* www.oxforddictionaries.com.

¹¹Claim 1 of the ’069 Patent states that the first means for handling tubular members is located “within and connected to” the derrick. The parties do not appear to dispute that “connected to” means “attached to” the derrick.

derrick.” The Court finds no support for Transocean’s original proposed construction that “within” means inside some vague “operational area” rather than in a defined space. Transocean later changed its proposed construction to “connected to and/or inside the derrick.” *See* Transocean’s Post Hearing Submission, Exhibit 1A [Doc. # 62-1], p. 15. Noble argues that the term should be construed to mean “inside the derrick.”

It is uncontested that the ordinary meaning of “within” is “inside.” Transocean argued during the *Markman* hearing, however, that other claims in the Patents-in-Suit require that equipment or activity is “within the periphery of the derrick” and, therefore, “within the derrick” must have a different meaning. The Court finds this argument unpersuasive. The “periphery” can mean the surrounding area lying beyond the body’s strict limits. *See* www.merriam-webster.com. It can also mean “the external surface of a body.” *See* The Random House Dictionary of the English Language (1966); *see also* www.ahdictionary.com (“the outside surface of an object”). Therefore, construing the term “within the derrick” as meaning inside the derrick adequately differentiates that term from the claim term “within the periphery of the derrick.”

Transocean argues also that “within the derrick” cannot mean “inside the derrick” because the motion compensation system is located within the derrick despite

sitting on top of it. *See* Power Point Slide in “Within the Derrick” section [Doc. # 59-2], ECF pp. 17-18. Transocean’s position that the motion compensation system sits on top of the derrick is not supported by the intrinsic record. Instead, the Patents-in-Suit place the motion compensation system “at the top” of the derrick, not “on top” of the derrick. *See, e.g.*, ’851 Patent Col. 6, line 41. The Patents-in-Suit provide that only the mini-derricks are located on top of the derrick. For example, the ’851 Patent states that the “derrick top serves to carry a first and second mini-derrick which guide a sheave and hydraulic motion compensation system.” *See* ’851 Patent Col. 6, lines 35-36. The mini-derricks “guide” the motion compensation system, which is itself located “within a single, multi-purpose derrick.” *See* ’851 Patent Col. 8, line 5. The language does not suggest that the motion compensation system is located inside the mini-derricks. Indeed, as noted above, the ’851 Patent provides that the “motion compensated sheaves” are located “at the top of the derrick.” *See* ’851 Patent Col. 6, line 41. Transocean’s argument regarding the placement of the motion compensation system does not support its opposition to construction of “within the derrick” as “inside the derrick.”

Further, Transocean’s replacement of its original proposed construction of “within the derrick” with the proposed construction “connected to and/or inside the derrick” is unavailing. The words “connected to” in the newly-proposed construction

are not supported by anything in the specification or other intrinsic evidence. Additionally, the new proposed construction fails to distinguish the claim term “within the derrick” from the distinct claim term “within and connected to said unitary derrick,” used in separate elements of Claim 1 of the ’069 Patent. The claim term “within the derrick” thus does not contain a limitation that the item also be connected to the derrick.

Accordingly, the Court construes the term “within the derrick” to mean “inside the derrick.”

B. “Means for Advancing” Terms

Claims 1 and 10 of the ’851 Patent, Claims 1 and 30 of the ’781 Patent, and Claim 1 of the ’071 Patent and the ’069 Patent include the disputed term “means for advancing.” The parties agree that these terms are means-plus-function limitations subject to § 112(f).

1. Specified Function

“[A] court may not construe a means-plus-function limitation by adopting a function different from that explicitly recited in the claims.” *JVW Enters., Inc. v. Interact Assocs., Inc.*, 424 F.3d 1324, 1330 (Fed. Cir. 2005) (internal quotations and citation omitted). Claims 1 and 10 of the ’851 Patent, and Claim 30 of the ’781 Patent describe a means for “advancing tubular members [through the drilling deck; through

the moon pool] into the bed of the body of water.”¹² Claim 1 of the ’781 Patent, the ’071 Patent, and the ’069 Patent each include a means for “advancing tubular members [through the drilling deck; through the moon pool] to the seabed and into the bed of the body of water.” The specified function of each of these claims is “advancing tubular members [through the drilling deck; through the moon pool] into the seabed.”

Claims 1 and 10 of the ’851 Patent, Claim 1 of the ’071 Patent, and Claim 30 of the ’781 Patent include a means for “advancing tubular members [through the drilling deck; simultaneously with said first means] into the body of water to the seabed.”¹³ The specified function of each of these claims is “advancing tubular members [through the drilling deck; simultaneously with said first means] to the seabed.”

2. Corresponding Structure

Noble contends that the corresponding structure should be defined specifically to require that the identified structure be “capable of performing the specified

¹²Various claim limitations in the Patents-in-Suit require that tubular members are advanced “to the seabed,” while other claim limitations require that the tubular members are advanced “into the seabed” or “into the bed of the body of water.” The latter two terms require that the tubular members actually go into the seabed, but, as explained in Section D hereafter, the former does not.

¹³Unlike the other related claims, Claim 1 of the ’851 Patent states “into a body of water” rather than “into the body of water.” *See* ’851 Patent, col. 13, lines 8-10.

function.” Transocean disagrees and proposes a list of the equipment as the corresponding structure. The parties agree that, in addition to the identified corresponding structure, equivalent structures are included. The parties agree also that the corresponding structure for “means for advancing” both to the seabed and into the seabed includes “[h]oisting equipment, including drawworks, cable, sheaves, and a traveling block.”¹⁴ Transocean argues that the corresponding structure also includes equipment for making-up and breaking-down tubular strings, including iron roughneck, pipe tong, spinning chain, Kelly and/or rotary swivel,¹⁵ as well as “optionally[,] equipment for rotating tubular strings (top drives or rotary table).”¹⁶

First, the Court declines to include optional equipment as corresponding structure. “A disclosed structure is corresponding ‘only if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim.’” *Omega Eng’g, Inc., v. Raytek Corp.*, 334 F.3d 1314, 1321 (Fed. Cir. 2003) (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir.

¹⁴A drawworks is a large winch that reels in and lets out cable known as drilling line. Sheaves are grooved pulleys. The traveling block is an arrangement of pulleys through which the drilling line is reeved that moves up and down the derrick. [These definitions and those in footnotes 14 and 15 are taken from the parties’ Tutorials.]

¹⁵An iron roughneck is a machine that makes up and breaks out connections of pipe by spinning the pipes and applying torque. A Kelly and a rotary swivel can each be used to rotate the drill string.

¹⁶A top drive is the motor that rotates the drill string. A rotary table supports the drill string when the drill string is not connected to the top drive.

1997)). “In other words, the structure must be necessary to perform the claimed function.” *Id.* (citing *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003)). Therefore, the Court does not adopt Transocean’s proposal to include optional equipment for rotating tubular strings (top drives or rotary table) as part of the corresponding structure for the means for advancing tubular members limitation.

Additionally, the Court is not persuaded that the corresponding structure for “advancing tubular members” includes equipment for making-up and breaking-down tubular strings. Transocean does not identify language in the Patents-in-Suit to support its suggestion. And the Final Decision of the Patent Trial and Appeal Board on *inter partes* review identified the corresponding structure for the “means for advancing tubular structures” as simply “drawworks and equivalent structures.” *See* Final Written Decision, Exh. 24 to Transocean’s Opening Claim Construction Brief, pp. 16-17. The ’851 Patent identifies equipment for making-up and breaking-down tubulars as structures for “handling,” not for “advancing,” tubular members. *See, e.g.*, ’851 Patent, col. 7, lines 26-49. Therefore, the Court does not include equipment for making-up and breaking-down tubular strings (iron roughneck, pipe tong, spinning chain, Kelly and/or rotary swivel) as corresponding structure for the means for advancing tubular members limitation.

Based on the foregoing, the Court identifies the corresponding structure for the claims with the specified function of “advancing tubular members into the seabed” as “hoisting equipment including drawworks, sheaves, a traveling block and structural equivalents capable of advancing tubular members [through the drilling deck; through the moon pool] into the seabed.” Similarly, the Court identifies the corresponding structure for the claims with the specified function of “advancing tubular members to the seabed” as “hoisting equipment including drawworks, sheaves, a traveling block and structural equivalents capable of advancing tubular members [through the drilling deck; simultaneously with said first means] to the seabed.”

In its claim construction briefing and during the *Markman* hearing, Transocean argued that including the “capable of . . .” language as part of the corresponding structure “implies the structure in the written description is incomplete or inadequate for performing the specified function.” *See* Transocean’s Opening Claim Construction Brief, p. 12. The Court’s inclusion of the “capable of . . .” language does not create such an implication but, instead, recognizes the clear legal requirement that the corresponding structure must be able to perform the specified function. *See Univ. of Pittsburgh of Commonwealth Sys. of Higher Educ. v. Varian Med. Sys., Inc.*, 561 F. App’x 934, 951 (Fed. Cir. 2014) (citing *Default Proof Credit Card Sys., Inc. v.*

Home Depot U.S.A., Inc., 412 F.3d 1291, 1298 (Fed. Cir. 2005); *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1379 (Fed. Cir. 2001)).

In the Reply Brief and during the *Markman* hearing, Transocean expressed its concern that Noble wants to argue to a jury that additional structures are required. *See* Reply, p. 7. Specifically, Transocean is concerned that Noble will argue that “means for advancing” requires “the unrelated function of motion compensation.” *See id.* at 8-9. Free-floating drilling structures often use specialized hoisting equipment that compensates for the vertical motion of the vessel caused by rising and falling ocean conditions. The “motion compensation” equipment helps prevent damage to the drill strings or to the drillship.

Noble denies that it intends to assert the motion compensation arguments described by Transocean and will, instead, argue consistently with well-established law that the corresponding structure must be capable of performing the specified function. Transocean’s concerns, therefore, appear unfounded, and there is no reason at this time for the Court to address them.

C. “Tubular Advancing Station” and Related Terms

1. First and Second Tubular Advancing Stations

Claim 17 of the ’069 Patent describes a first “tubular advancing station” for advancing tubular members to the seabed and into the bed of the body of water.

Claim 17 also describes a second “tubular advancing station” for “advancing tubular members simultaneously with said first tubular advancing station to the seabed and into the body of water to the seabed.”

The clear language of Claim 17 provides that the “first tubular advancing station” is an assembly of equipment capable of advancing tubular members “to the seabed and into the bed of the body of water.” Consequently, this first tubular advancing station must contain equipment capable of advancing tubular members “to the seabed” as construed in Section D hereafter, and “into the bed of the body of water,” which means *into* the seabed.

The second “tubular advancing station,” however, requires that the assembly of equipment at that station be capable of advancing the tubular members “to the seabed and into the body of water to the seabed.” Noble argues that this is a typographical error and should read “into the bed of the body of water.” Although the Court agrees that the phrase “to the seabed and into the body of water to the seabed” is redundant, a Court cannot correct a patent unless “the error is evident from the face of the patent.” *See H-W Tech., L.C. v. Overstock.com, Inc.*, 758 F.3d 1329, 1333 (Fed. Cir. 2014). The Court does not find that the questioned language, although duplicative, is an erroneous statement of the patent drafter’s intent. Therefore, the Court construes the language as written. Further, there is insufficient indication that

Noble’s proposed construction is warranted. As a result, the Court concludes that the “second tubular advancing station” is an assembly of equipment that is capable of advancing tubular members to the seabed.

Transocean argues that the first and second tubular advancing stations should be construed identically. The language in each is different, however, and must be construed as written. Therefore, the Court construes the term “first tubular advancing station” in Claim 17 of the ’069 Patent as “an assembly of equipment capable of advancing tubular members to the seabed and into the seabed” and construes the term “second tubular advancing station” in that same claim as “an assembly of equipment capable of advancing tubular members to the seabed.” There is no requirement that the second tubular advancing station in Claim 17 of the ’069 Patent have the capability of advancing tubular members “into” the seabed.

2. Operable to Selectively Advance Tubular Members

Claim 32 of the ’071 Patent provides for a second tubular advancing structure that is “operable to selectively advance tubular members . . . to the seabed and into the bed of the body of water” During the *Markman* hearing, the parties were at a loss to provide a viable construction of this claim term. Noble in its Claim Construction Chart proposes the construction “an assembly of equipment capable of advancing tubular members to the seabed and into the bed of the body of water.” Transocean in

its Claim Construction Chart similarly proposed “an assembly of equipment capable of advancing tubular members to and into the seabed.” These proposed constructions both ignore the word “selectively.” Transocean later, in its *Markman* presentation, proposed the construction “an assembly of equipment capable of advancing tubular members, where the tubular members are accessible to both stations.” This proposed construction ignores the requirement that the tubular advancing structure be capable of advancing the tubular members into the seabed, and there is no language in Claim 32 that suggests that the tubular members must be accessible to both stations. Therefore, the Court does not adopt either party’s proposed construction.

The Court renders its own proposed construction of the term “operable to selectively advance tubular members . . . to the seabed and into the bed of the body of water” First, the term language suggests that the second tubular advancing structure is an assembly of equipment capable of advancing tubular members to the seabed and into the seabed. Second, grammatically, the placement of “selectively” within the infinitive “to advance” indicates that the advancing is being performed selectively, not that certain tubular members are being selected over others. Language such as “operable to advance selected tubular members” would have indicated that the operator could select which tubular members to advance. The drafter of the ’071 Patent, however, did not use that phrasing. Therefore, the Court proposes the term

means “an assembly of equipment capable of advancing at the equipment operator’s election tubular members to the seabed and into the seabed.” The equipment operator would select when, how, and indeed, whether to advance tubular members to the seabed and into the seabed.

The Court recognizes that this construction has not been suggested by or discussed with counsel. Therefore, the Court issues this construction tentatively, and will allow the parties to file objections by **July 10, 2018**. Alternatively, by that date, the parties may agree on a different claim construction or may withdraw the request that the Court construe this claim term.

D. “To the Seabed”

Various claims in the Patents-in-Suit state that a tubular member is advanced “to the seabed.” During the *Markman* hearing, the parties agreed that a tubular member is advanced “to the seabed” when “it reaches the point where it can engage in operations at the seabed.” The parties further agreed that the term “to the seabed” does not necessarily require touching the seabed. The Court accepts the parties’ agreed construction of the term “to the seabed.”

E. Drilling Operations, Drilling Activity, and Related Terms

1. Drilling Operations and Drilling Activity

The terms “drilling operations” and “drilling activity” are used throughout the Patents-in-Suit. The parties agree that the two terms have the same meaning. Transocean proposes that the terms mean “operations required to construct a well,” and Noble proposes the construction “operations required to drill a well.” The dispute focuses on whether the terms are limited to actual drilling into the seabed.

The clear language of the Patents-in-Suit establishes that the terms “drilling operations” and “drilling activity” refer to more than actual drilling into the seabed. For example, Claim 1 of the ’851 Patent refers to “drilling activity” being conducted by the means for advancing tubular members. Claim 1 of the ’781 Patent refers to “drilling operations” being conducted through the moon pool. Because the language in the Patents-in-Suit does not support limiting the terms “drilling activity” and “drilling operations” to only drilling into the seabed, the Court construes the terms to mean “operations required to construct a well.”¹⁷

2. Auxiliary Drilling Activity and Related Terms

The term “auxiliary drilling activity” is used in Claims 1 and 10 of the ’851 Patent, Claims 1, 15, 20, and 30 of the ’781 Patent, Claims 1 and 32 of the ’071 Patent, and Claims 1 and 17 of the ’069 Patent. Related term “drilling operations

¹⁷The critical path includes all of the different operations that must be performed to construct the well, such as handling, transferring, and advancing tubular members. As a result, these “drilling operations” and “drilling activity” – defined as operations required to construct a well – would be included on the critical path.

auxiliary to said drilling operations” is used in Claim 10 of the ’851 Patent. Claim term “operations auxiliary to [said] drilling operations” is used in Claims 1 and 10 of the ’851 Patent, Claims 1 and 30 of the ’781 Patent, Claims 1, 32 and 35 of the ’071 Patent, and Claim 17 of the ’069 Patent. Disputed claim term “operations auxiliary to drilling the well” is used in Claim 15 of the ’781 Patent, and term “activity auxiliary to drilling activity” is used in Claim 20 of that Patent. Transocean proposes that these claim terms all be construed to mean “operations removed from the critical path.” Noble proposes that these claim terms all be construed to mean “drilling operations removed from the critical path.”

The Court construes these disputed claim terms to mean “drilling operations removed from the critical path.” The Court has construed the terms “drilling operations” and “drilling activity” broadly to mean “operations required to construct a well.” Because the “critical path” identifies the operations that must be performed to construct the well, operations that can be removed from the critical path are those operations required to construct a well – or drilling operations. Indeed, Transocean stated in this case that its “point is that auxiliary drilling activity does not require actual drilling.” *See* Transocean’s Reply Brief, p. 18. This “point” that drilling activity and auxiliary drilling activity do not require actual drilling has been accepted by the Court in its construction of the claim terms “drilling activity” and “drilling

operations.” Therefore, the Court construes these related claim terms to mean “drilling operations removed from the critical path.”

F. “Or” in the Wherein Clauses

Claim 1 of the ’781 Patent, the ’071 Patent, and the ’069 Patent contain a “wherein” clause providing that drilling activity can be conducted “by said first or second means for advancing” and auxiliary drilling activities can be simultaneously conducted “by the other of said first or second means for advancing . . .” Claim 32 of the ’071 Patent contains a wherein clause providing that drilling activity can be conducted “by said first or second tubular advancing structure” and auxiliary drilling activity can be simultaneously conducted “by the other of said first or second tubular advancing structure.” Claim 17 of the ’069 Patent contains a wherein clause providing that drilling activity can be conducted “by said first or second tubular advancing stations” and auxiliary drilling activity can be simultaneously conducted “by the other of said first or second tubular advancing stations.” The fundamental dispute between the parties is whether, as Transocean argues, only one of the recited means/structures/stations must be capable of performing drilling activities or, as Noble argues, both means/structures/stations must be capable of performing drilling operations.

Transocean argued during the *Markman* hearing that Noble’s request for construction of “or” in the wherein clauses should have been raised in a different manner, such as in connection with other disputed claims terms rather than separately. The Court is unpersuaded. Noble has adequately presented the issue, and the Court will construe this disputed claim term in the Patents-in-Suit.

The cited clauses provide that the drilling activity “can be conducted . . . by said first or second means [or advancing structure or advancing stations] for advancing” tubular members. The word “or” can be used inclusively to mean “first or second or both,” or exclusively to mean “first or second but not both.” *See Shaw v. Nat’l Union Fire Ins. Co. of Pittsburgh, Pa.*, 605 F.3d 1250, 1254 n.8 (11th Cir. 2010); *Allstate Ins. Co. v. Plambeck*, 66 F. Supp. 3d 782, 788 (N.D. Tex. 2014); *Gonzalez v. Infostream Group, Inc.*, 2015 WL 5604448, *18 (E.D. Tex. Sept. 21, 2015). In this case, the Patents-in-Suit provide expressly that drilling activity “can be conducted . . . by said first or second means [or advancing structure or advancing stations] for advancing” tubular members, and auxiliary drilling activity can be simultaneously conducted from “the other of said first or second means for advancing . . .” The Court construes this language to mean that drilling activity can be conducted from either means/structure/station and the operator can select which means/structure/station – the first or the second – will be used for drilling operations.

Thus, the “other of said first or second” means/structure/station will be used simultaneously for auxiliary drilling activity. Unless both means/structures/stations are capable of performing drilling activity, drilling activity cannot be conducted from the first or second means/structure/station, but only from the one with drilling activity capability. Based on the plain meaning of the term “or” in the wherein clauses of the Patents-in-Suit, the Court construes the term inclusively to mean that both means/structures/stations must be capable of – but not necessarily in fact used at all times for – conducting drilling activities.

The Court’s construction of the term “or” in the wherein clauses is supported by the prosecution history of the Patents-in-Suit. The claims of the ’851 Patent, as originally allowed, stated “wherein said drilling activity can be conducted . . . by said first means for advancing.” Subsequently, U.S. Patent No. 4,850,439 (the “*Lund* Patent”) was discovered. The *Lund* Patent covered a station for assembling and disassembling tubular members separate from the station for conducting drilling operations. *See Lund* Patent, Noble Exh. C, Combined Exhibits at CC000728. At that point, the application was amended “to clearly define over this newly cited Lund patent.” *See* Amendment, Combined Exhibits at CC000704. One of the amendments to “define over this newly cited Lund patent” was to change the requirement that the “drilling activity can be conducted . . . by said first means for advancing” to the

current requirement that “drilling activity can be conducted . . . by said first or second means for advancing.” *See id.* at CC000694. To overcome the prior art in the *Lund* Patent, the application for the ’851 Patent was amended to clarify that, unlike in *Lund* where only one of the stations was capable of performing drilling operations, the Patents-in-Suit require that drilling operations can be conducted by either the first or the second means/structures/stations for advancing.

Based on the clear language of the claim term and on the prosecution history, the Court construes the term “or” in the wherein clauses to mean that “both means/structures/stations must be capable of conducting drilling activities.”

G. “Means for Handling” and Related Terms

Claim 1 of each of the Patents-in-Suit includes a “means for handling tubular members as said tubular members are advanced [through the drilling deck; through the moon pool]” The parties agree that these terms are means-plus-function limitations subject to § 112(f).

As mentioned above in connection with the “means for advancing” claim terms, the “means for handling” includes making-up and breaking down the tubular strings or stands. The specified function is “handling tubular members as said tubular members are advanced [through the drilling deck; through the moon pool].”

The parties agree, though in connection with their proposed construction for different claim terms,¹⁸ that the equipment for “handling” tubular members as they are advanced through the drilling deck or through the moon pool includes an iron roughneck, a pipe tong, a spinning chain, a kelly, and a rotary swivel.¹⁹ Transocean argues that the corresponding structure also includes overhead cranes within the derrick and pipe handlers. Noble disagrees.

In the Final Decision on *inter partes* review and in a prior claim construction of claims in the Patents-in-Suit, the overhead derrick cranes and rail supported pipe handlers were identified as corresponding structure for the “means . . . for transferring tubular assemblies” limitation, with the specified function of “transferring tubular assemblies directly between advancing stations or indirectly through a setback envelope.” *See* Final Written Decision, pp. 16-17 (corresponding structure of a “rail supported pipe handling system” and a “rugged overhead crane structure within the

¹⁸In connection with its proposed construction of the “means for advancing” claim term, Transocean identifies the equipment for “making-up and breaking-down tubular strings” as “iron roughneck, pipe tong, spinning chain, Kelly and/or rotary swivel.” *See* Transocean’s Claim Construction Chart, p. 2. Noble identifies these pieces of equipment as the corresponding structure for the “means for handling tubular members.” *See* Noble Claim Construction Chart, p. 8.

¹⁹There now appears to be a dispute regarding whether every element of the corresponding structure for “means for handling” must be present. *See* Transocean’s Post Hearing Submission [Doc. # 62], p. 2. The Patents-in-Suit demonstrate that the listed equipment can be used in various combinations, often using some but not all of the listed items. Indeed, the preferred embodiment lists only the iron roughneck. *See* ’851 Patent, Fig. 7. As noted repeatedly herein, however, the combination of equipment must be capable of performing the specified function at issue.

derrick”); *Transocean Offshore Deepwater Drilling, Inc. v. Pacific Drilling, Inc., et al.*, Civil Action No. H-13-1088, p. 73 (corresponding structure of “overhead derrick cranes, rail supported pipe handlers, or equivalent structures”). This Court concludes that the overhead cranes within the derrick and the rail supported pipe handlers are equipment for transferring tubular assemblies, not for handling members as they are advanced through the drilling deck or through the moon pool. Consequently, the Court identifies the corresponding structure for the “means for handling” limitation as “the combination of an iron roughneck, a pipe tong, a spinning chain, a kelly and a rotary swivel (or equivalent structures) capable of handling tubular members as said tubular members are advanced [through the drilling deck; through the moon pool].”

H. Method Claim 37

The preamble to Method Claim 37 in the '071 Patent describes a method for conducting offshore drilling operations into the seabed conducted “at least partially, from a first station for advancing tubular members and at least partially from a second station for advancing tubular members.” Transocean states that no construction is required, but asserts that the first or second station does not have to perform any particular step “or even a complete step.” Noble proposes that the language be construed as “a method in which drilling operations into the seabed are performed from both the first station for advancing and the second station for advancing.”

The Court has held previously in this Memorandum and Order that “advancing” does not include making up and breaking down tubular strings. With that understanding, it is unclear how any of the four steps listed in Method Claim 37 could be separated into discrete parts. Therefore, the Court construes the preamble to require that each of the two stations for advancing must perform at least one step of the “method for conducting offshore drilling operations into the seabed.” The preamble does not, however, require that either the first or the second “station for advancing” perform any particular step(s) listed in Claim 37.²⁰

IV. CONCLUSION

The Court has considered the intrinsic evidence in the record, as well as limited extrinsic evidence as cited herein. The Court also has considered the parties’ oral arguments and explanations during the *Markman* hearing, which the Court found very helpful and informative. Based on this consideration of the evidence and the parties’ arguments, as well as the application of governing claim construction principles, the Court construes the disputed terms in the Patents-in-Suit as set forth above and in the chart below.

Claim Term	Court’s Construction
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²⁰In connection with Claim 37, Transocean states in its Opening Claim Construction Brief that Noble attempts to define the tubular members by which station advances them. Noble does not make that argument in either its Claim Construction Brief or its Claim Construction Chart.

Derrick Drilling Superstructure Interconnected Superstructure	A single framework that supports the loan of drilling operations
Within the Derrick	Inside the derrick
Means for Advancing Tubular Members [Through the Drilling Deck; Through the Moon Pool] Into the Bed of the Body of Water	Specified Function: Advancing tubular members [through the drilling deck; through the moon pool] into the seabed
Means for Advancing Tubular Members [Through the Drilling Deck; Through the Moon Pool] To the Seabed and Into the Bed of the Body of Water	Corresponding Structure: Hoisting equipment including drawworks, sheaves, a traveling block and structural equivalents capable of advancing tubular members [through the drilling deck; through the moon pool] into the seabed
Means for Advancing Tubular Members [Through the Drilling Deck; Simultaneously With Said First Means] Into the Body of Water to the Seabed	Specified Function: Advancing tubular members [through the drilling deck; simultaneously with said first means] to the seabed
	Corresponding Structure: Hoisting equipment including drawworks, sheaves, a traveling block and structural equivalents capable of advancing tubular members [through the drilling deck; simultaneously with said first means] to the seabed
First Tubular Advancing Station in Claim 17 of the '069 Patent	An assembly of equipment capable of advancing tubular members to the seabed and into the seabed
Second Tubular Advancing Station in Claim 17 of the '069 Patent	An assembly of equipment capable of advancing tubular members to the seabed
Operable to Selectively Advance Tubular Members	An assembly of equipment capable of advancing at the equipment operator's election tubular members to the seabed and into the seabed

To the Seabed	To the point where the item can engage in operations at the seabed. There is no requirement that the item touch the seabed.
Drilling Operations Drilling Activity	Operations required to construct a well
Auxiliary Drilling Activity and related terms	Drilling operations removed from the critical path
“Or” in the “Wherein” Clauses	Both means/structures/stations must be capable of conducting drilling activities
Means for Handling Tubular Members As Said Tubular Members Are Advanced [Through the Drilling Deck; Through the Moon Pool]	<p>Specified Function: Handling tubular members as said tubular members are advanced [through the drilling deck; through the moon pool]</p> <p>Corresponding Structure: The combination of an iron roughneck, a pipe tong, a spinning chain, a kelly and a rotary swivel (or equivalent structures) capable of handling tubular members as said tubular members are advanced [through the drilling deck; through the moon pool]</p>
Preamble to Method Claim 37	Each of the two stations for advancing must perform at least one step of the “method for conducting offshore drilling operations into the seabed,” there is no requirement that the “first station for advancing” perform certain steps listed in Claim 37 and the “second station for advancing” perform the other steps

It is **SO ORDERED**.

SIGNED at Houston, Texas, this 19th day of **June, 2018**.


 NANCY F. ATLAS
 SENIOR UNITED STATES DISTRICT JUDGE